## **Claims**

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1. Optical data carriers comprising a preferably transparent substrate which may, if desired, have previously been coated with one or more reflection layers and/or protective layers and to whose surface a light-writable information layer, if desired one or more reflection layers and if desired a protective layer or a further substrate or a covering layer have been applied, which can be written on or read by means of blue light, preferably light having a wavelength in the range 360-460 nm, in particular from 390 to 420 nm, very particularly preferably from 400 to 410 nm, preferably laser light, where the information layer comprises a light-absorbent compound and, if desired, a binder, characterized in that at least one metal complex having at least one ligand of the formula (I)

$$\begin{pmatrix}
A \\
N
\end{pmatrix}
Y^{1} = Y^{2} + Y^{3}$$

$$\begin{pmatrix}
A \\
Y^{3}
\end{pmatrix}$$

$$\begin{pmatrix}
Y^{4} \\
Y^{4}
\end{pmatrix}$$

$$\begin{pmatrix}
Y^{4} \\$$

where

is a substituted or unsubstituted and/or benzo- or naphtho-fused five- or six-membered aromatic or pseudoaromatic or partially hydrogenated heterocyclic radical,

n is 0 or 1,

 $Y^1$  is N or C- $R^1$ ,

 $Y^2$  is N or C- $R^2$ ,

 $Y^3$  is N or C- $R^3$ ,

20 X is O, S or  $N-R^5$ ,

R<sup>5</sup> is hydrogen, alkyl, alkenyl, aralkyl, cycloalkyl, acyl, aryl or a heterocyclic radical,

R¹ to R⁴ are each, independently of one another, hydrogen, halogen, alkyl, alkoxy, monoalkylamino or dialkylamino, aralkyl, aryl, hetaryl, arylazo, hetarylazo, cyano or alkoxycarbonyl,

R<sup>1</sup>;R<sup>2</sup> can form a substituted or unsubstituted triatomic bridge which may contain heteroatoms or a substituted or unsubstituted tetraatomic bridge which contains no heteroatoms or at least two heteroatoms,

R<sup>2</sup>;R<sup>3</sup> and R<sup>4</sup>;R<sup>5</sup> can each, independently of one another, form a substituted or unsubstituted bridge and

R<sup>2</sup>;R<sup>5</sup> can form a substituted or unsubstituted bridge when n is 0,

is used as light-absorber compound.

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2. Optical data carriers according to Claim 1, characterized in that the radical of the formula

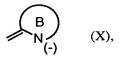
$$V_1 = V_2$$

$$V_3 = C$$

is -N=N-,  $-CR^1=N-$ ,  $-CR^1=CR^2-$ ,  $-N=CR^2-$ ,  $-CR^1=N-N=CR^4-$ ,  $-N=N-N=CR^4-$ ,  $-CR^1=CR^2 N=CR^4-$  or  $-CR^1=CR^2-CR^3=CR^4-$ , particularly preferably -N=N-,  $-CR^1=N-$ ,  $-CR^1=CR^2-$ ,  $-N=CR^2-$ ,  $-N=N-N=CR^4-$ ,  $-CR^1=CR^2-N=CR^4-$  or  $-CR^1=CR^2-CR^3=CR^4-$ ,

where R<sup>1</sup> to R<sup>4</sup> are as defined in Claim 1.

3. Optical data carriers according to at least one of Claims 1 and 2, characterized in that X is N-R<sup>5</sup> and the radical of the formula -CR<sup>2</sup>-N<sup>(-)</sup>-R<sup>5</sup> or -CR<sup>4</sup>-N<sup>(-)</sup>-R<sup>5</sup> is a ring of the formula (X)



with the radical of the formula (X) as the protonated tautomer of the formula



being referred to as B for short,

where B is a substituted or unsubstituted and/or benzo- or naphtho-fused 5- or 6-membered aromatic or pseudoaromatic or partially hydrogenated heterocyclic radical.

4. Optical data carrier according to at least one of Claims 1 to 3, characterized in that they comprise at least one metal complex of the formula (Ia), (Ib) or (Ic)

$$\left[\begin{array}{c} (I) \end{array}\right]_{2}^{2} \quad M^{2+} \tag{Ia},$$

$$[(I)] M^{2+} An$$
 (Ib) or

$$\left[ \text{ (I)} \right]_{2}^{2} \text{ M}^{3+} \text{ An}^{-} \text{ (Ic)},$$

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where

M is an appropriately charged metal,

An- is an anion and

the radical of the formula (I) is as defined in at least one of Claims 1 to 3,

- as light-absorbent compounds.
  - 5. Optical data carrier according to at least one of Claims 1 to 4, characterized in that the metal complex used as light-absorbent compound has two identical or different ligands of the formula (I).
- 6. Optical data carrier according to at least one of Claims 1 to 5, characterized in that the metal atom of the metal complex is Mg, Ca, Sr, Ba, Cu, Ni, Co, Fe, Zn, Pd, Pt, Ru, Th, Os, Sm, B, Al, Ga, In, V, Cr, Y, La, Ce, Pr, Nd, En, Gd or Tb.
  - 7. Optical data carrier according to at least one of Claims 1 to 6, characterized in that A is 2-pyridyl, 2-quinolyl, 2-pyrimidyl, 2-pyrazinyl, 1,3,5-triazin-2-yl, 1,3-thiazol-2-yl, 1,3-thiazol-2-yl, 1,3-thiazol-2-yl, benzothiazol-2-yl, 1,2-thiazol-3-yl, benzoisothiazol-3-yl, 1,3-oxazol-2-yl, 1,3-oxazol-2-yl, benzoxazol-2-yl, 1,2-oxazol-3-yl, imidazol-2-yl, imidazol-2-yl, pyrazol-5-yl, pyrrolin-2-yl, pyrrol-2-yl, 1,3,4-triazol-2-yl, 3H-indolin-2-yl, tetrahydroisoindol-1-yl, isoindol-1-yl, benz(cd)indol-2-yl, 1,3,4-thiadiazol-2-yl, 1,2,4-thiadiazol-3-yl or 1,3,4-oxadiazol-2-yl, which may, if desired, be substituted.

8. Optical data carrier according to at least one of Claims 1 to 7, characterized in that A is

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2-pyridyl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, tertbutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, tert-pentylaminosulphonyl, bis(hydroxyethyl)aminosulphonyl, nitro and cyano,

2-quinolyl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, tertbutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, tert-pentylaminosulphonyl, bis(hydroxyethyl)aminosulphonyl, morpholinosulphonyl, methoxyethoxypropylaminosulphonyl, nitro and cyano,

1,3-thiazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methoxy, phenyl and cyano,

benzothiazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, tert-butoxy, 2,4-dimethyl-3-pentoxy, methoxycarbonyl, diisobutylaminosulphonyl, tert-pentylaminosulphonyl, bis(hydroxyethyl)aminosulphonyl, morpholinosulphonyl, methoxyethoxypropylaminosulphonyl, nitro and cyano,

benzoxazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, tert-butoxy, 2,4-dimethyl-3-pentoxy, methoxycarbonyl, diisobutylaminosulphonyl, tert-pentylaminosulphonyl, bis(hydroxyethyl)aminosulphonyl, morpholinosulphonyl, methoxyethoxypropylaminosulphonyl, nitro and cyano,

imidazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, methyl, methoxy, phenyl, cyano, -C(=NH)-OCH<sub>3</sub>, nitro, methoxycarbonyl and ethoxycarbonyl,

benzimidazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, tert-butoxy, 2,4-dimethyl-3-pentoxy, methoxycarbonyl, diisobutylaminosulphonyl, tert-pentylaminosulphonyl, bis(hydroxyethyl)aminosulphonyl, morpholinosulphonyl, methoxyethoxypropylaminosulphonyl, nitro and cyano,

1,3,4-thiadiazol-2-yl which may be substituted by chlorine, bromine, methoxy, phenoxy, methanesulphonyl, methylthio, ethylthio, dimethylamino, diethylamino, di(iso)propylamino, N-methyl-N-cyanoethylamino, N,N-biscyanoethylamino, N-methyl-N-hydroxyethylamino, N-methyl-N-benzylamino, N-methyl-N-phenylamino, anilino, pyrrolidino, piperidino or morpholino,

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pyrrol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano and/or bears a  $-(CH_2)_3$ - or  $-(CH_2)_4$  bridge in the 3,4 positions and/or can be substituted in position 5 by imino, dicyanomethylene, methoxycarbonylcyanomethylene, ethoxycarbonylcyanomethylene or a radical of the formula (XII)

$$Y^1$$
  $Y^2$   $Y^3$   $X$  (XII),

where X is N-R<sup>5</sup> and Y<sup>1</sup> to Y<sup>3</sup>, R<sup>4</sup>, n and R<sup>5</sup> have the abovementioned meanings but are independent thereof,

3-H-indolin-2-yl which bears two methyl groups or an oxo group in position 3 and can be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano,

isoindol-1-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano and/or may be substituted in position 3 by imino, dicyanomethylene, methoxycarbonylcyanomethylene, ethoxycarbonylcyanomethylene or a radical of the formula (XII)

$$Y^1$$
  $Y^2$   $Y^3$   $X$  (XII),

where X is N-R<sup>5</sup> and Y<sup>1</sup> to Y<sup>3</sup>, R<sup>4</sup>, n and R<sup>5</sup> have the abovementioned meanings but are independent thereof, or

1,2,4-triazol-2-yl which may be substituted by methyl or phenyl.

9. Optical data carrier according to at least one of Claims 1 to 8, characterized in that the metal complexes used as light-absorbent compounds have at least one ligand of the formulae (I-A) to (I-ZA)



$$\begin{array}{c}
A \\
N
\end{array}$$

$$\begin{array}{c}
B \\
N
\end{array}$$
(I-C),

$$\begin{array}{c}
A \\
N \\
N
\end{array}$$

$$\begin{array}{c}
(I-D),
\end{array}$$

$$\begin{array}{cccc}
A & R^2 & B \\
N & N & (-)
\end{array}$$
(I-E),

$$\begin{array}{c|c}
 & R^2 \\
 & N \\
 & N \\
 & R^3 \\
 & N \\
 & (-)
\end{array}$$
(I-F),

$$\begin{array}{cccc}
A & & & & & & & & \\
N & & & & & & & & \\
R^1 & & & & & & & & \\
\end{array}$$
(I-G),

 $\begin{array}{cccc}
A & R^2 \\
N & N^2 R^5
\end{array}$ (I-H),



$$\begin{array}{c|c}
 & R^2 \\
 & O_{(-)}
\end{array}$$
(I-J),

$$\begin{array}{c|c} & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & &$$

$$\begin{array}{c|c}
B' \\
N \\
(-)
\end{array}$$
(I-L),

$$O = \begin{pmatrix} R^2 & A' & R^2 \\ N & R^1 & (-) \end{pmatrix}$$
 (I-O),

$$R^{5}$$
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{2}$ 
 $R^{5}$ 
 $R^{5}$ 
 $R^{5}$ 
 $R^{5}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{2}$ 
 $R^{5}$ 
 $R^{5}$ 



$$A'$$
 $N$ 
 $B$ 
 $(I-R)$ 

$$O = \begin{pmatrix} R^2 & A' & B \\ N & N & N \\ R^1 & N & (-) \end{pmatrix}$$
 (I-W),

$$O = \begin{pmatrix} R^2 & A' \\ N & N & R^5 \\ R^1 & (-) \end{pmatrix}$$
 (I-Z),

$$O = \begin{pmatrix} R^2 & A' & R^2 \\ N & N' & R^5 \\ R^1 & (-) & (I-ZA), \end{pmatrix}$$

where

## 5 A and B' are, independently of one another,

2-pyridyl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

2-quinolyl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

1,3-thiazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methoxy, phenyl and cyano,

benzothiazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

benzoxazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

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imidazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, methyl, methoxy, phenyl, cyano, -C(=NH)-OCH<sub>3</sub>, nitro, methoxycarbonyl and ethoxycarbonyl,

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benzimidazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

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1,3,4-thiadiazol-2-yl which may be substituted by chlorine, bromine, methoxy, phenoxy, methanesulphonyl, methylthio, ethylthio, dimethylamino, diethylamino, di(iso)propylamino, N-methyl-N-cyanoethylamino, N,N-biscyanoethylamino, N-methyl-N-benzylamino, N-methyl-N-phenylamino, anilino, pyrrolidino, piperidino or morpholino,

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3-H-indolin-2-yl which in position 3 bears two methyl groups or one oxo group and may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano,

isoindol-1-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano and/or may be substituted in position 3 by imino, dicyanomethylene, methoxycarbonylcyanomethylene, ethoxycarbonylcyanomethylene, or

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1,2,4-triazol-2-yl which may be substituted by methyl or phenyl,

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A' is pyridin-2-yl-6-ylidene, 1,3,4-triazol-2yl-5-ylidene, pyrrol-2yl-5-ylidene, 3,4-tetramethylenepyrrol-2yl-5-ylidene or unsubstituted or fluorine-, chlorine-, methyl-, methoxy-, methoxycarbonyl-, nitro- or cyano-substituted isoindol-1-yl-3-ylidene,

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B is pyridin-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

quinolin-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

1,3-thiazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methoxy, phenyl and cyano,

benzothiazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

benzoxazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

imidazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, methyl, methoxy, phenyl, cyano, -C(=NH)-OCH<sub>3</sub>, nitro, methoxycarbonyl and ethoxycarbonyl,

benzimidazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

1,3,4-thiadiazol-2-ylidene which may be substituted by chlorine, bromine, methoxy, phenoxy, methanesulphonyl, methylthio, ethylthio, dimethylamino, diethylamino, di(iso)propylamino, N-methyl-N-cyanoethylamino, N,N-biscyanoethylamino, N-methyl-N-hydroxyethylamino, N-methyl-N-benzylamino, N-methyl-N-phenylamino, anilino, pyrrolidino, piperidino or morpholino,

isoindol-1-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano and/or may be substituted in position 3 by imino, dicyanomethylene, methoxycarbonylcyanomethylene, ethoxycarbonylcyanomethylene, or

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1,2,4-triazol-2-ylidene which may be substituted by methyl or phenyl,

- R<sup>1</sup> to R<sup>4</sup> are each, independently of one another, hydrogen, chlorine, methyl, benzyl, pyridylmethyl, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl and
- R<sup>2</sup> may also be methoxy, ethoxy, dimethylamino, diethylamino, pyrrolidino or piperidino, or
- R<sup>1</sup>;R<sup>2</sup> in the formulae (I-H), (I-J), (I-O), (I-P), (I-U) to (I-ZA) together form an unsubstituted or methyl-, phenyl- and/or cyano-substituted bridge having the atom sequence -CR'=N-NR"-, -(C=O)-NR"-(C=O)-NR"-, where R', R" and R" are each, independently of one another, H, alkyl, in particular C<sub>1</sub>-C<sub>4</sub>-alkyl, preferably methyl, or aryl, in particular C<sub>6</sub>-C<sub>10</sub>-aryl, preferably phenyl, or
- $R^1;R^2$  in the formulae (I-E), (I-F), (I-H), (I-J), (I-O), (I-P), (I-U) to (I-ZA) together form a -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>- or -CH=CH-CH=CH- bridge and
- $R^5$ is methyl, ethyl or a phenyl, 2-, 3- or 4-pyridyl, 2-, 3- or 4-quinolyl, thiazol-2-yl, benzothiazol-2-yl, benzoxazol-2-yl, imidazol-2-yl, benzimidazol-2-yl, 1,3,4-triazol-2-yl radical which may be unsubstituted or bear up to two identical or different radicals selected from the group consisting of methyl, methoxy, chlorine, nitro, cyano, methylsulphonyl, methoxycarbonyl and ethoxycarbonyl as substituents, formyl, acetyl, trifluoroacetyl, acryloyl, methacryloyl, benzoyl, methylbenzoyl, chlorobenzovl, methanesulphonyl, trifluoromethanesulphonyl, perfluorobutanesulphonyl, toluenesulphonyl, benzenesulphonyl, chlorobenzenesulphonyl, methoxycarbonyl, ethoxycarbonyl, N,Ndimethylcarbamoyl, N,N-dimethylsulphamoyl, N-2,2,2-trifluoroethylsulphamoyl, N-methyl-N-2,2,2-trifluoroethylsulphamoyl, pyridine-2-, -3- or -4-carbonyl, pyridin-2-, -3- or -4-sulphonyl or benzothiazol-2-sulphonyl,
- 25  $Y^4$  is =0, =S or a radical of the formula

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$$\stackrel{\mathsf{R}^6}{\stackrel{}{\triangleright}}_{\mathsf{CN}}$$
 (XIII) or  $\stackrel{\mathsf{N}}{\stackrel{}{\triangleright}_{\mathsf{R}^7}}$  (XIV),

R<sup>6</sup> is hydrogen, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl

and

R<sup>7</sup> is hydrogen, methyl, ethyl, phenyl, tolyl, chlorophenyl, anisyl, 2-pyridyl, thiazol-2-yl or benzothiazol-2-yl.

10. Optical data carrier according to at least one of Claims 1 to 9, characterized in that the metal complexes used as light-absorbent compounds have at least one ligand of the formula (I-A) or (I-B)

$$\begin{array}{cccc}
A & B \\
N & (-)
\end{array}$$
(I-A),

$$\begin{array}{c}
A \\
N
\end{array}$$

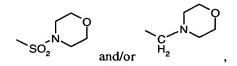
$$\begin{array}{c}
B \\
N
\end{array}$$
(I-B),

where

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10 R<sup>1</sup> is hydrogen, benzyl, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl,

is a 2-pyridyl, 1,3-thiazol-2-yl, benzothiazol-2-yl or benzoxazol-2-yl radical which is substituted by -O-CH<sub>2</sub>-CH(CH<sub>3</sub>)<sub>2</sub>, -O-CH[CH(CH<sub>3</sub>)<sub>2</sub>]<sub>2</sub>, -O-C(CH<sub>3</sub>)<sub>3</sub>, -O-CH<sub>2</sub>-CH(C<sub>2</sub>H<sub>5</sub>)(C<sub>4</sub>H<sub>9</sub>), -O-CH<sub>2</sub>-C(CH<sub>3</sub>)<sub>2</sub>-C<sub>2</sub>H<sub>5</sub>, -SO<sub>2</sub>N(CH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>, -COOCH<sub>2</sub>CH<sub>3</sub>, -SO<sub>2</sub>NHCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>, -SO<sub>2</sub>NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -SO<sub>2</sub>NHC(CH<sub>3</sub>)<sub>3</sub>, -CH<sub>2</sub>N(CH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>, -SO<sub>2</sub>NH-(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>O-)<sub>2</sub>CH<sub>3</sub>, -SO<sub>2</sub>NH-(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>O)-(CH<sub>2</sub>CH<sub>2</sub>O)-CH<sub>3</sub>, -SO<sub>2</sub>N(CH<sub>2</sub>CHOH)<sub>2</sub>, SO<sub>2</sub>N(CH<sub>2</sub>CH(CH<sub>3</sub>)CH<sub>2</sub>OH)<sub>2</sub>.



is a pyridin-2-ylidene, 1,3-thiazol-2-ylidene, benzothiazol-2-ylidene or benzoxazoliden-2-yl radical which is substituted by hydrogen, -O-CH<sub>2</sub>-CH(CH<sub>3</sub>)<sub>2</sub>, -O-CH<sub>2</sub>-CH(CH<sub>3</sub>)<sub>3</sub>, -O-CH<sub>2</sub>-CH(C<sub>2</sub>H<sub>5</sub>)(C<sub>4</sub>H<sub>9</sub>), -O-CH<sub>2</sub>-C(CH<sub>3</sub>)<sub>2</sub>-C<sub>2</sub>H<sub>5</sub>, -SO<sub>2</sub>N(CH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>, -COOCH<sub>2</sub>CH<sub>3</sub>, -SO<sub>2</sub>NHCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>, -SO<sub>2</sub>NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -SO<sub>2</sub>NHC(CH<sub>3</sub>)<sub>3</sub>, -CH<sub>2</sub>N(CH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>,

 $-SO_2NH-(CH_2CH_2CH_2O-)_2CH_3, \qquad -SO_2NH-(CH_2CH_2C)-(CH_2CH_2O)-CH_3, \\ -SO_2N(CH_2CHOH)_2, SO_2N(CH_2CH(CH_3)CH_2OH)_2.$ 

SO<sub>2</sub> and/or 
$$H_2$$

11. Optical data carrier according to at least one of Claims 1 to 9, characterized in that the metal complexes used as light-absorbent compounds have at least one ligand of the formula (I-C)

$$\begin{array}{c}
A \\
N
\end{array}$$

$$\begin{array}{c}
B \\
N
\end{array}$$
(I-C),

where

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R<sup>1</sup> is hydrogen, benzyl, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl,

A is a 2-pyridyl, 2-quinolyl or 3,3-dimethylindolin-2-yl radical which may be substituted by methyl, methoxy, chlorine or methoxycarbonyl,

B is a pyridin-2-ylidene, 1,3-thiazol-2-ylidene or benzothiazol-2-ylidene radical which may be substituted by chlorine, methyl, methoxy, cyano or methoxycarbonyl, a 1,3,4-thiadiazol-2-ylidene radical which may be substituted by methylthio, dimethylamino, diethylamino, diisopropylamino, pyrrolidino or morpholino, or a 1,3,4-triazol-2-ylidene radical.

12. Optical data carrier according to at least one of Claims 1 to 9, characterized in that the metal complexes used as light-absorbent compounds have at least one ligand of the formula (I-G), (I-H) or (I-J)

$$\begin{array}{c}
A \\
N
\end{array}$$

$$\begin{array}{c}
N \\
N
\end{array}$$

$$\begin{array}{c}
R^5 \\
(I-G),
\end{array}$$

 $\begin{array}{c|c}
A & R^2 \\
N & N & R^5
\end{array}$ (I-H),

$$\begin{array}{c}
A \\
N
\end{array}$$

$$\begin{array}{c}
R^2 \\
O \\
(I-J),
\end{array}$$

where

R<sup>1</sup> is hydrogen, phenyl or cyano,

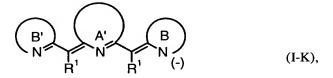
R<sup>2</sup> is hydrogen or

5 R<sup>1</sup>;R<sup>2</sup> form a -CH=CH-CH=CH- bridge,

R<sup>5</sup> is phenyl, tolyl, chlorophenyl, nitrophenyl, 2-, 3- or 4-pyridyl, thiazol-2-yl, benzothiazol-2-yl, trifluoroacetyl, methanesulphonyl, trifluoromethanesulphonyl, benzenesulphonyl, cyanobenzenesulphonyl, N,N-dimethylsulphamoyl, pyridine-2-, -3- or -4-sulphonyl,

10 A is a 2-pyridyl, 2-quinolyl or 3,3-dimethylindolin-2-yl radical which may be substituted by methyl, methoxy, chlorine or methoxycarbonyl,

or have at least one ligand of the formula (I-K) or (I-Q)



15 where

R<sup>1</sup> is hydrogen, benzyl, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl,

 $Y^4$  is =0, =S, =NH or =C(CN)<sub>2</sub>,

A' is 3,4-tetramethylenepyrrol-2-yl-5-ylidene, a pyrrol-2-yl-5-ylidene or isoindol-1-yl-3-ylidene radical which may be substituted by methyl, methoxy, nitro or cyano,

- B' is a 2-pyridyl, 2-quinolyl, 1,3-thiazol-2-yl, benzothiazol-2-yl, benzoxazol-2-yl or 3,3-dimethylindolin-2-yl radical which may be substituted by methyl, methoxy, chlorine, cyano or methoxycarbonyl,
- B is a pyridin-2-ylidene, quinolin-2-ylidene, 1,3-thiazol-2-ylidene, benzothiazol-2-ylidene, benzoxazol-2-ylidene or 3,3-dimethylindolin-2-ylidene radical which may be substituted by methyl, methoxy, chlorine, cyano or methoxycarbonyl,

or have at least one ligand of the formula (I-L) or (I-R)

$$\begin{array}{c|c}
B' \\
N \\
N \\
N \\
N \\
N \\
N \\
B \\
N \\
(-)
\end{array}$$
(I-L),

$$A'$$
 $N$ 
 $B$ 
 $N$ 
 $(I-R)$ 

10 where

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 $Y^4$  is =0, =S, =NH or =C(CN)<sub>2</sub>,

- A' is 3,4-tetramethylenepyrrol-2-yl-5-ylidene, a pyrrol-2-yl-5-ylidene or isoindol-1-yl-3-ylidene radical which may be substituted by methyl, methoxy, nitro or cyano,
- B' is a 2-pyridyl, 2-pyrimidyl, 1,3-thiazol-2-yl, benzothiazol-2-yl, benzoxazol-2-yl radical which may be substituted by methyl, methoxy, chlorine, cyano or methoxycarbonyl, a 1,3,4-triazol-2-yl radical or a 1,3,4-thiadiazol-2-yl radical which may be substituted by dimethylamino, diethylamino, diisopropylamino, pyrrolidino or morpholino,
- B is a pyridin-2-ylidene, pyrimidin-2-ylidene, 1,3-thiazol-2-ylidene, benzothiazol-2-ylidene, benzoxazol-2-ylidene radical which may be substituted by methyl, methoxy, chlorine, cyano or methoxycarbonyl, a 1,3,4-triazol-2-ylidene radical or a 1,3,4-thiadiazol-2-ylidene radical which may be substituted by dimethylamino, diethylamino, diisopropylamino, pyrrolidono or morpholino,

or have at least one ligand of the formula (I-O) or (I-U)

$$O = \begin{pmatrix} R^2 & A' & R^2 \\ N & R^1 & (-) \end{pmatrix}$$
 (I-O),

where

5  $Y^4$  is =0, =S, =NH or =C(CN)<sub>2</sub>,

A' is a pyrrol-2-yl-5-ylidene or isoindol-1-yl-3-ylidene radical which may be substituted by methyl or methoxy,

R<sup>1</sup> is hydrogen,

R<sup>2</sup> is dimethylamino, diethylamino, pyrrolidino or piperidino or

10 R<sup>1</sup>;R<sup>2</sup> form a –CH=CH-CH=CH- bridge,

or have at least one ligand of the formula (I-W)

$$O = \begin{pmatrix} R^2 & A' & B \\ N & N & N \\ R^1 & N & (-) \end{pmatrix}$$
 (I-W),

where

15

A' is 3,4-tetramethylenepyrrol-2-yl-5-ylidene, a pyrrol-2-yl-5-ylidene or isoindol-1-yl-3-ylidene radical which may be substituted by methyl, methoxy, nitro or cyano,

R<sup>1</sup> is hydrogen or cyano,

R<sup>2</sup> is methoxy, ethoxy, dimethylamino, diethylamino, pyrrolidino or piperidino,

B is a pyridin-2-ylidene, quinolin-2-ylidene, 1,3-thiazol-2-ylidene, benzothiazol-2-ylidene, benzoxazol-2-ylidene or 3,3-dimethylindolin-2-ylidene radical which may be substituted by methyl, methoxy, chlorine, cyano or methoxycarbonyl,

or have at least one ligand of the formula (I-X)

$$O = \begin{pmatrix} A' & B \\ N' & N \end{pmatrix} \begin{pmatrix} B \\ N & (-) \end{pmatrix}$$
(I-X),

5

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A' is a 3,4-tetramethylenepyrrol-2-yl-5-ylidene, pyrrol-2-yl-5-ylidene or isoindol-1-yl-3-ylidene radical which may be substituted by methyl, methoxy, nitro or cyano,

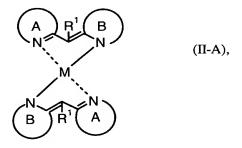
R<sup>1</sup> is hydrogen or cyano,

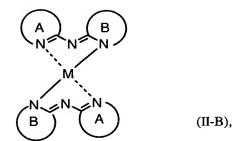
where

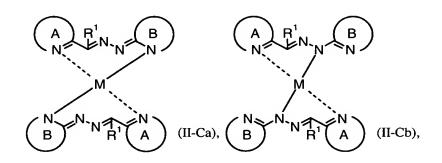
R<sup>2</sup> is methoxy, ethoxy, dimethylamino, diethylamino, pyrrolidino or piperidino,

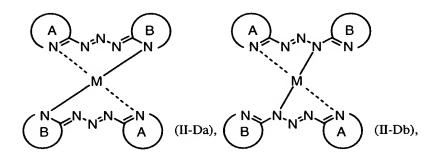
B is a pyridin-2-ylidene, pyrimidin-2-ylidene, 1,3-thiazol-2-ylidene, benzothiazol-2-ylidene, benzoxazol-2-ylidene radical which may be substituted by methyl, methoxy, chlorine, cyano or methoxycarbonyl, a 1,3,4-triazol-2-ylidene radical or a 1,3,4-thiadiazol-2-ylidene radical which may be substituted by dimethylamino, diethylamino, diisopropylamino, pyrrolidino or morpholino.

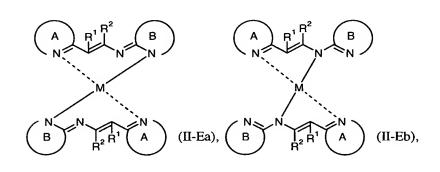
13. Optical data carrier according to at least one of Claims 1 to 8, characterized in that the metal complexes used as light-absorbent compounds have at least one of the formulae (II-A) to (II-K), (II-Q) to (II-V), (III-K) to (III-P) and (III-W) to (III-ZA)

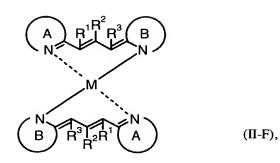


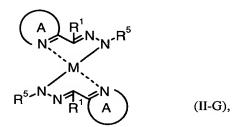


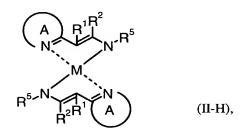


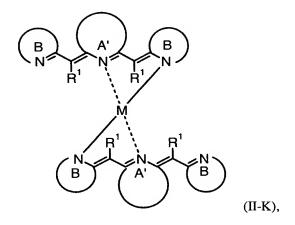


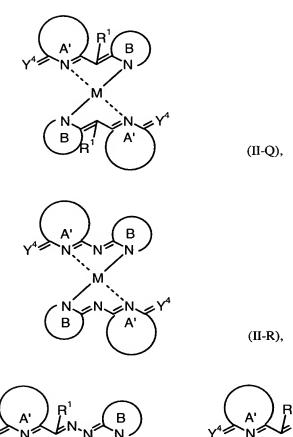


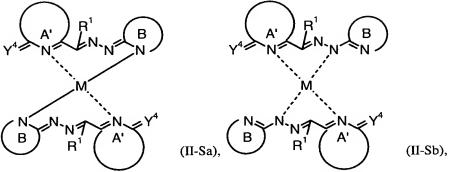


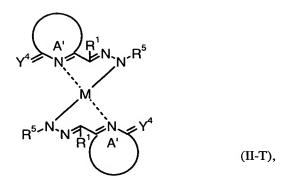


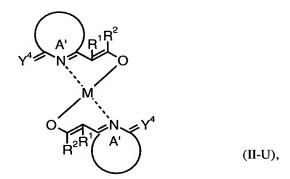


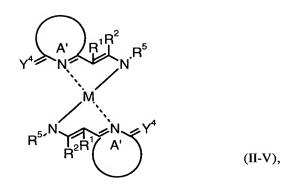


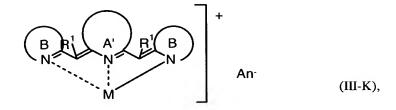


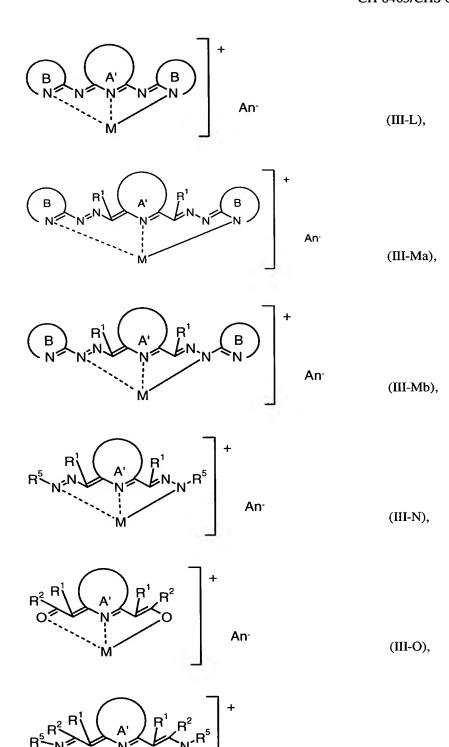






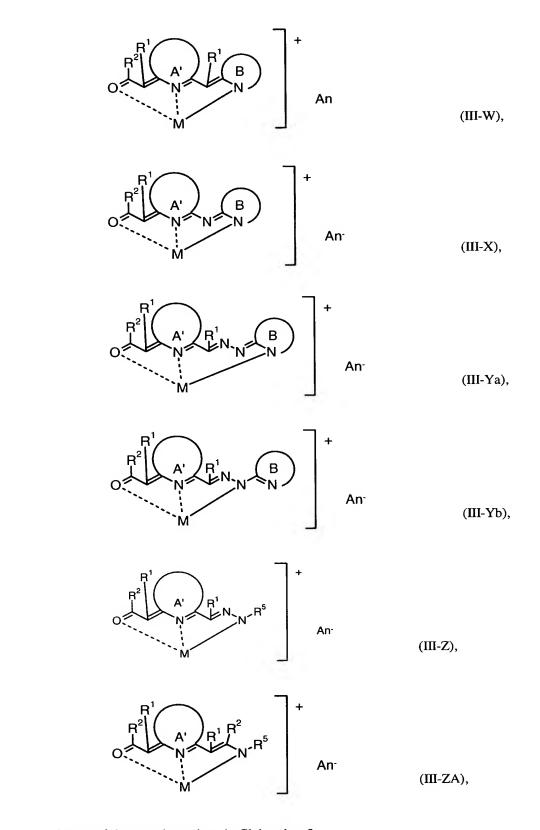






An-

(III-P),



in one of the meanings given in Claims 1 to 8.

- 14. Process for producing an optical data carrier according to at least one of Claims 1 to 13, characterized in that a preferably transparent substrate which may, if desired, have previously been coated with a reflection layer and/or a protective layer is coated with at least one metal complex having at least one ligand of the formula (I) as light-absorbent compound, if desired in combination with suitable binders and additives and, if desired, suitable solvents and provided, if desired, with a reflection layer, further intermediate layers and, if desired, a protective layer or a further substrate or a covering layer.
- 15. Metal complexes having at least one ligand of the formula (I)

$$\begin{pmatrix}
A \\
N
\end{pmatrix}
Y^{1} = Y^{2}$$

$$\begin{pmatrix}
Y^{3}
\end{pmatrix}$$

$$\begin{pmatrix}
Y^{3}
\end{pmatrix}$$

$$\begin{pmatrix}
X^{(-)}
\end{pmatrix}$$
(I),

where the radical of the formula

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$$\bigvee_{Y^1} Y^2 \left( \bigvee_{Y^3} C \right)$$

is -N=N-,  $-CR^1=N-$ ,  $-CR^1=CR^2-$ ,  $-N=CR^2-$ ,  $-N=N-N=CR^4-$ ,  $-CR^1=CR^2-N=CR^4-$  or  $-CR^1=CR^2-CR^3=CR^4-$ .

16. Metal complexes according to Claim 15, characterized in that they have at least one ligand of the formulae (I-A) to (I-ZA)



$$\begin{array}{ccc}
A & B \\
N & N & (I-B),
\end{array}$$

$$\begin{array}{c|c}
A \\
N
\end{array}$$

$$\begin{array}{c}
B \\
N
\end{array}$$
(I-C),



$$\begin{array}{c|c}
 & R^2 \\
 & N \\
 & N \\
 & N
\end{array}$$
(I-E),

$$\begin{array}{c|c}
A & R^2 & B \\
N & R^1 & R^3 & (-)
\end{array}$$
(I-F),

$$\begin{array}{c}
A \\
N
\end{array}$$

$$\begin{array}{c}
N \\
N
\end{array}$$

$$\begin{array}{c}
R^5 \\
(-)
\end{array}$$
(I-G),

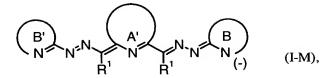
$$\begin{array}{c|c}
A & R^2 \\
N & N & R^5
\end{array}$$
(I-H),

$$\begin{array}{c}
A \\
N \\
N \\
N \\
N \\
-
\end{array}$$
(I-I),

$$\begin{array}{c|c}
 & R^2 \\
 & R^1
\end{array}$$
(I-J),

$$\begin{array}{c|c} & & & & \\ & & & & \\ N & & & & \\ R^1 & & & & \\ R^1 & & & & \\ R^1 & & & \\ \end{array}$$

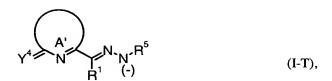
$$\begin{array}{c|c}
B' \\
N \\
(-)
\end{array}$$
(I-L),



$$O = \begin{pmatrix} R^2 & A' & R^2 \\ A' & A' & O \\ R^1 & R^1 & (-) \end{pmatrix}$$
 (I-O),

$$R^{5} \stackrel{R^{2}}{\underset{R^{1}}{\bigvee}} \stackrel{A^{1}}{\underset{R^{1}}{\bigvee}} \stackrel{R^{2}}{\underset{\Gamma}{\bigvee}} R^{5}$$
 (I-P),

$$A'$$
  $B$   $N$   $(I-R)$ ,



$$O = \begin{pmatrix} R^2 & A' & B \\ N & N & (-) \end{pmatrix}$$
 (I-W),

$$O = \begin{pmatrix} A' \\ N \end{pmatrix} \begin{pmatrix} B \\ N \\ (-) \end{pmatrix}$$
(I-X),

$$O = \begin{pmatrix} R^2 & A' & B \\ N & N & N \\ R^1 & R^1 \end{pmatrix}$$
 (I-Y),

$$O = \begin{pmatrix} A^{1} & A^{1}$$

$$O = \begin{pmatrix} R^2 & A^1 & R^2 \\ N & N & R^5 \\ R^1 & (-) & (I-ZA), \end{pmatrix}$$

where

A and B' are, independently of one another,

2-pyridyl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

2-quinolyl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

1,3-thiazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methoxy, phenyl and cyano,

benzothiazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

benzoxazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

imidazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, methyl, methoxy, phenyl, cyano, -C(=NH)-OCH<sub>3</sub>, nitro, methoxycarbonyl and ethoxycarbonyl,

benzimidazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

1,3,4-thiadiazol-2-yl which may be substituted by chlorine, bromine, methoxy, phenoxy, methanesulphonyl, methylthio, ethylthio, dimethylamino, diethylamino, di(iso)propylamino, N-methyl-N-cyanoethylamino, N,N-biscyanoethylamino, N-

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N-methyl-Nmethyl-N-hydroxyethylamino, N-methyl-N-benzylamino, phenylamino, anilino, pyrrolidino, piperidino or morpholino, 3-H-indolin-2-yl which in position 3 bears two methyl groups or one oxo group and may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano, isoindol-1-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano and/or may be substituted in position 3 by imino, dicyanomethylene, methoxycarbonylcyanomethylene, ethoxycarbonylcyanomethylene, or 1,2,4-triazol-2-yl which may be substituted by methyl or phenyl, A' is pyridin-2-yl-6-ylidene, 1,3,4-triazol-2yl-5-ylidene, pyrrol-2yl-5-ylidene, 3,4tetramethylenepyrrol-2yl-5-ylidene or unsubstituted or fluorine-, chlorine-, methyl-, methoxy-, methoxycarbonyl-, nitro- or cyano-substituted isoindol-1-yl-3-ylidene, В is pyridin-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano, quinolin-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano, 1,3-thiazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methoxy, phenyl and cyano, benzothiazol-2-ylidene which may be substituted by up to two identical or

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methoxycarbonyl, nitro and cyano,

different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl,

benzoxazol-2-ylidene which may be substituted by up to two identical or different

radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy,

ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

imidazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, methyl, methoxy, phenyl, cyano, -C(=NH)-OCH<sub>3</sub>, nitro, methoxycarbonyl and ethoxycarbonyl,

benzimidazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

1,3,4-thiadiazol-2-ylidene which may be substituted by chlorine, bromine, methoxy, phenoxy, methanesulphonyl, methylthio, ethylthio, dimethylamino, diethylamino, di(iso)propylamino, N-methyl-N-cyanoethylamino, N,N-biscyanoethylamino, N-methyl-N-hydroxyethylamino, N-methyl-N-benzylamino, N-methyl-N-phenylamino, anilino, pyrrolidino, piperidino or morpholino,

isoindol-1-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano and/or may be substituted in position 3 by imino, dicyanomethylene, methoxycarbonylcyanomethylene, ethoxycarbonylcyanomethylene, or

1,2,4-triazol-2-ylidene which may be substituted by methyl or phenyl,

R<sup>1</sup> to R<sup>4</sup> are each, independently of one another, hydrogen, chlorine, methyl, benzyl, pyridylmethyl, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl and

R<sup>2</sup> may also be methoxy, ethoxy, dimethylamino, diethylamino, pyrrolidino or piperidino, or

R<sup>1</sup>;R<sup>2</sup> in the formulae (I-H), (I-J), (I-O), (I-P), (I-U) to (I-ZA) together form an unsubstituted or methyl-, phenyl- and/or cyano-substituted bridge having the atom sequence -C=N-N-, -(C=O)-N-(C=O)-N-, or

 $R^1$ ;  $R^2$  in the formulae (I-E), (I-F), (I-H), (I-J), (I-O), (I-P), (I-U) to (I-ZA) together form a -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>- or -CH=CH-CH=CH bridge and

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 $R^5$ is methyl, ethyl or a phenyl, 2-, 3- or 4-pyridyl, 2-, 3- or 4-quinolyl, thiazol-2-yl, benzothiazol-2-yl, benzoxazol-2-yl, imidazol-2-yl, benzimidazol-2-yl, 1,3,4-triazol-2-yl radical which may be unsubstituted or bear up to two identical or different radicals selected from the group consisting of methyl, methoxy, chlorine, nitro, cyano, methylsulphonyl, methoxycarbonyl and ethoxycarbonyl as substituents, formyl, acetyl, trifluoroacetyl, acryloyl, methacryloyl, benzoyl, methylbenzoyl, trifluoromethanesulphonyl, chlorobenzoyl, methanesulphonyl, toluenesulphonyl, benzenesulphonyl, perfluorobutanesulphonyl, ethoxycarbonyl, N,Nmethoxycarbonyl, chlorobenzenesulphonyl, dimethylcarbamoyl, N,N-dimethylsulphamoyl, N-2,2,2-trifluoroethylsulphamoyl, N-methyl-N-2,2,2-trifluoroethylsulphamoyl, pyridine-2-, -3- or -4-carbonyl, pyridin-2-, -3- or -4-sulphonyl or benzothiazol-2-sulphonyl,

 $Y^4$  is =0, =S or a radical of the formula

$$R^{6}$$
 (XIII) or  $R^{7}$  (XIV),

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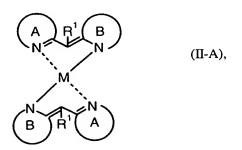
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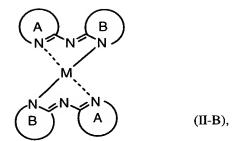
R<sup>6</sup> is hydrogen, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl

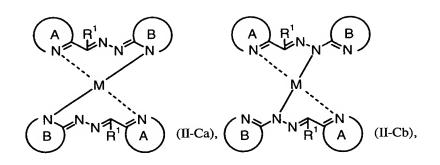
and

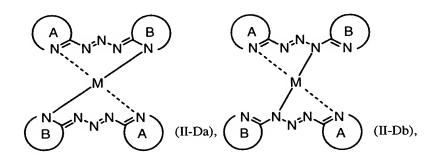
R<sup>7</sup> is hydrogen, methyl, ethyl, phenyl, tolyl, chlorophenyl, anisyl, 2-pyridyl, thiazol-2-yl or benzothiazol-2-yl.

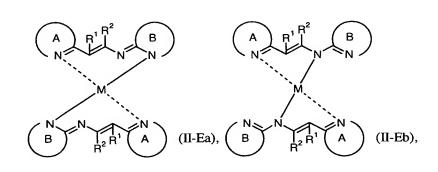
20 17. Metal complexes according to at least one of Claims 15 and 16, characterized in that they have the formulae (II-A) to (II-J), (II-Q) to (II-V), (III-K) to (III-P) and (III-W) to (III-ZA),

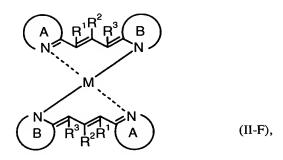


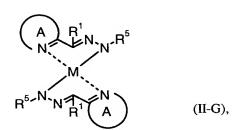


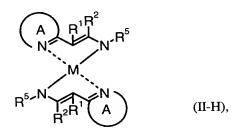




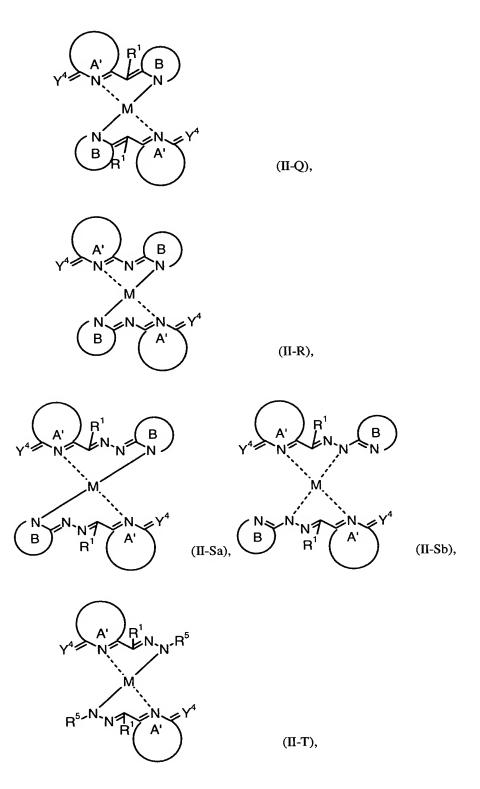


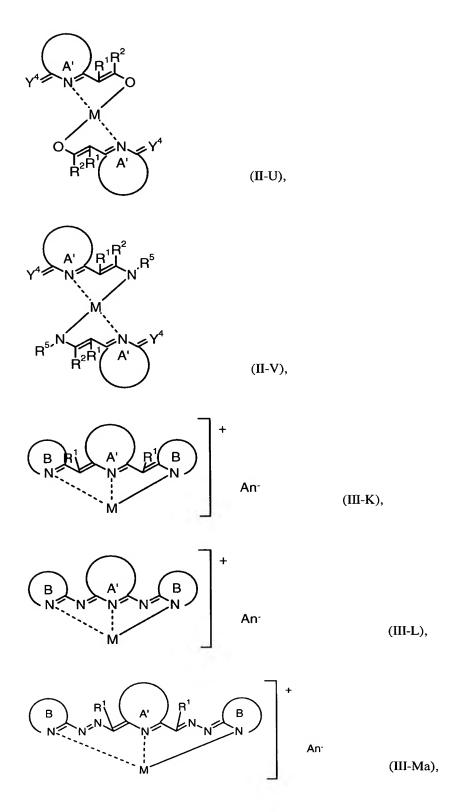


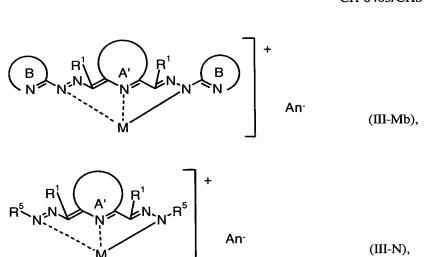


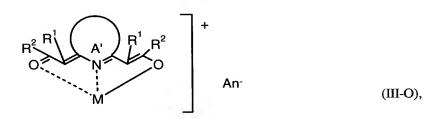


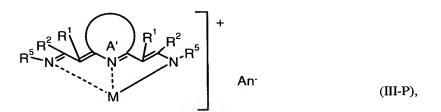
$$\begin{array}{cccc}
A & R^{1}R^{2} \\
N & O \\
M & O \\
R^{2}R^{1} & A
\end{array}$$
(II-J),

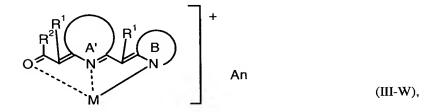


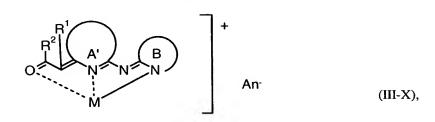


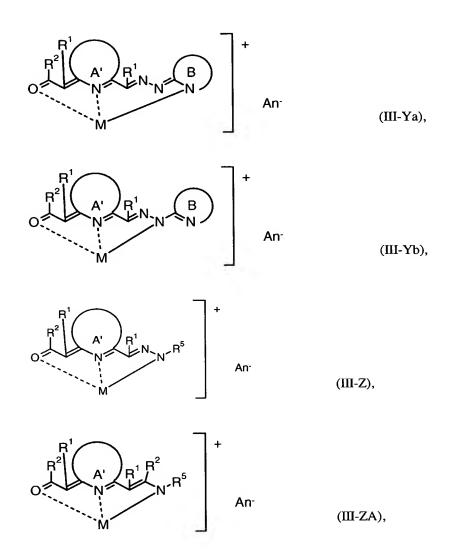








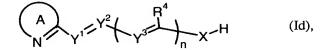




5 where M, An- and the radicals of the respective ligands independently have the abovementioned meanings.

## 18. Solution comprising

- a) at least one metal complex according to at least one of Claims 15 to 17 and
- b) at least one organic solvent.
- 19. Solution according to Claim 18 comprising at least one solvent from the group consisting of 2,2,3,3-tetrafluoropropanol, propanol, butanol, pentanol, hexanol, diacetone alcohol, dibutyl ether, heptanone and mixtures thereof as organic solvents of the component b).
  - 20. Process for preparing metal complexes according to at least one of Claims 15 to 17, characterized in that a metal salt is reacted with a ligand compound of the formula (Id)



where

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A is a substituted or unsubstituted and/or benzo- or naphtho-fused five- or sixmembered aromatic or pseudoaromatic or partially hydrogenated heterocyclic radical,

n is 0 or 1,

 $Y^1$  is N or C- $R^1$ ,

 $Y^2$  is N or C- $R^2$ ,

 $Y^3$  is N or C- $R^3$ ,

10 X is O, S or N-R<sup>5</sup>,

R<sup>5</sup> is hydrogen, alkyl, alkenyl, aralkyl, cycloalkyl, acyl, aryl or a heterocyclic radical,

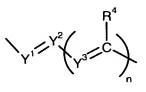
R<sup>1</sup> to R<sup>4</sup> are each, independently of one another, hydrogen, halogen, alkyl, alkoxy, monoalkylamino or dialkylamino, aralkyl, aryl, hetaryl, arylazo, hetarylazo, cyano or alkoxycarbonyl,

R<sup>1</sup>;R<sup>2</sup> can form a substituted or unsubstituted triatomic bridge which may contain heteroatoms or a substituted or unsubstituted tetraatomic bridge which contains no heteroatoms or at least two heteroatoms,

R<sup>2</sup>;R<sup>3</sup> and R<sup>4</sup>;R<sup>5</sup> can each, independently of one another, form a substituted or unsubstituted bridge and

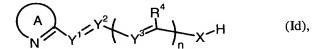
20  $R^2$ ;  $R^5$  can form a bridge when n is 0,

and the radical of the formula



is -N=N-,  $-CR^1=N-$ ,  $-CR^1=CR^1-$ ,  $-N=CR^2-$ ,  $-N=N-N=CR^4-$ ,  $-CR^1=CR^2-N=CR^4-$  or  $-CR^1=CR^2-CR^3=CR^4-$ .

- 21. Use of the metal complexes according to at least one of Claims 15 to 17 as light-absorbent compound in the information layer of write-once optical data carriers which can be written on and read by means of light having a wavelength in the range 360-460 nm.
- 22. Ligand compound of the formula (Id)



where

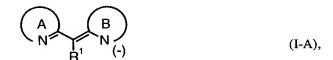
5

- A is a substituted or unsubstituted and/or benzo- or naphtho-fused five- or six-10 membered aromatic or pseudoaromatic or partially hydrogenated heterocyclic radical,
  - n is 0 or 1,
  - $Y^1$  is N or C- $R^1$ ,
  - $Y^2$  is N or C- $R^2$ ,
- 15  $Y^3$  is N or C- $R^3$ .
  - X is O, S or  $N-R^5$ ,
  - R<sup>5</sup> is hydrogen, alkyl, alkenyl, aralkyl, cycloalkyl, acyl, aryl or a heterocyclic radical,
  - R<sup>1</sup> to R<sup>4</sup> are each, independently of one another, hydrogen, halogen, alkyl, alkoxy, monoalkylamino or dialkylamino, aralkyl, aryl, hetaryl, arylazo, hetarylazo, cyano or alkoxycarbonyl,
  - R<sup>1</sup>;R<sup>2</sup> can form a substituted or unsubstituted triatomic bridge which may contain heteroatoms or a substituted or unsubstituted tetraatomic bridge which contains no heteroatoms or at least two heteroatoms,
  - R<sup>2</sup>;R<sup>3</sup> and R<sup>4</sup>;R<sup>5</sup> can each, independently of one another, form a bridge and
- 25 R<sup>2</sup>;R<sup>5</sup> can form a bridge when n is 0 and the radical of the formula

$$V_1 = V^2 \left( V_3 = C \right)$$

is -N=N-,  $-CR^1=N-$ ,  $-CR^1=CR^1-$ ,  $-N=CR^2-$ ,  $-N=N-N=CR^4-$ ,  $-CR^1=CR^2-N=CR^4-$  or  $-CR^1=CR^2-CR^3=CR^4-$ .

23. Ligand compound according to Claim 22, characterized in that it corresponds to the protonated form of at least one formula (I-A) to (I-ZA),



$$\begin{array}{ccc}
A & B \\
N & N & C
\end{array}$$
(I-B),

$$\begin{array}{c|c}
A & B \\
N & N & N
\end{array}$$
(I-C),

$$\begin{pmatrix}
A \\
N
\end{pmatrix}$$

$$N = N \cdot N$$

$$N \cdot N \cdot N$$
(I-D),

$$\begin{array}{c|c}
A & R^2 & B \\
N & N & (-)
\end{array}$$
(I-E),

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\$$

$$\begin{pmatrix}
A \\
N
\end{pmatrix}$$

$$\begin{matrix}
N \\
R^{1}
\end{matrix}$$
(I-G),



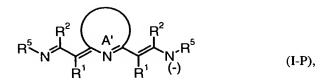
$$\begin{array}{c|c} & & & & \\ & & & & \\ N & & & & \\ R^1 & & & \\ R^1 & & \\ \end{array} \begin{array}{c} B \\ N \\ (-) \end{array} \hspace{1cm} (I-K),$$

$$\begin{array}{c|c}
B' \\
N \\
N \\
N
\end{array}$$

$$\begin{array}{c}
N \\
N \\
N
\end{array}$$

$$\begin{array}{c}
N \\
N \\
(I-L),
\end{array}$$

$$O = \begin{pmatrix} R^2 & A' & R^2 \\ N & R^1 & (-) \end{pmatrix}$$
 (I-O),



$$A'$$
 $N$ 
 $B$ 
 $(I-R)$ 

$$O = \begin{pmatrix} A^1 & B \\ N & N \\ R^1 & N \end{pmatrix}$$
(I-W),

$$O = \begin{pmatrix} R^2 & A' \\ N & N \end{pmatrix} \begin{pmatrix} B \\ N \\ (-) \end{pmatrix}$$
(I-X),

$$O = \begin{pmatrix} R^2 & A' & B \\ N & N & N \\ R^1 & N & N \end{pmatrix}$$
(I-Y),

$$O = \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 & A^1 & A^1 \end{pmatrix} \begin{pmatrix} A^1 & A^1 & A^1 \\ A^1 &$$

$$\begin{array}{c|c}
R^2 & R^2 \\
O & R^1 & R^2 \\
R^1 & (-) & (I-ZA),
\end{array}$$

## 5 where

A and B' are, independently of one another,

2-pyridyl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

2-quinolyl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

1,3-thiazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methoxy, phenyl and cyano,

benzothiazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

15

benzoxazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

5

imidazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, methyl, methoxy, phenyl, cyano, -C(=NH)-OCH<sub>3</sub>, nitro, methoxycarbonyl and ethoxycarbonyl,

10

benzimidazol-2-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

1,3,4-thiadiazol-2-yl which may be substituted by chlorine, bromine, methoxy, phenoxy, methanesulphonyl, methylthio, ethylthio, dimethylamino, diethylamino, di(iso)propylamino, N-methyl-N-cyanoethylamino, N,N-biscyanoethylamino, N-methyl-N-hydroxyethylamino, N-methyl-N-benzylamino, N-methyl-N-phenylamino, anilino, pyrrolidino, piperidino or morpholino,

15

3-H-indolin-2-yl which in position 3 bears two methyl groups or one oxo group and may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano,

20

isoindol-1-yl which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, methoxycarbonyl, nitro and cyano and/or may be substituted in position 3 by imino, dicyanomethylene, methoxycarbonylcyanomethylene, ethoxycarbonylcyanomethylene, or

25

1,2,4-triazol-2-yl which may be substituted by methyl or phenyl,

30

A' is pyridin-2-yl-6-ylidene, 1,3,4-triazol-2yl-5-ylidene, pyrrol-2yl-5-ylidene, 3,4-tetramethylenepyrrol-2yl-5-ylidene or unsubstituted or fluorine-, chlorine-, methyl-, methoxy-, methoxycarbonyl-, nitro- or cyano-substituted isoindol-1-yl-3-ylidene,

B is pyridin-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

quinolin-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, nitro and cyano,

1,3-thiazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methoxy, phenyl and cyano,

benzothiazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

benzoxazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

imidazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, methyl, methoxy, phenyl, cyano, -C(=NH)-CH<sub>3</sub>, nitro, methoxycarbonyl and ethoxycarbonyl,

benzimidazol-2-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy, ethoxy, isobutoxy, 2,4-dimethyl-3-pentoxy, diisobutylaminosulphonyl, methoxycarbonyl, nitro and cyano,

1,3,4-thiadiazol-2-ylidene which may be substituted by chlorine, bromine, methoxy, phenoxy, methanesulphonyl, methylthio, ethylthio, dimethylamino, diethylamino, di(iso)propylamino, N-methyl-N-cyanoethylamino, N,N-biscyanoethylamino, N-methyl-N-hydroxyethylamino, N-methyl-N-benzylamino, N-methyl-N-phenylamino, anilino, pyrrolidino, piperidino or morpholino,

isoindol-1-ylidene which may be substituted by up to two identical or different radicals selected from the group consisting of chlorine, fluorine, methyl, methoxy,

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methoxycarbonyl, nitro and cyano and/or may be substituted in position 3 by imino, dicyanomethylene, methoxycarbonylcyanomethylene, ethoxycarbonylcyanomethylene, or

- 1,2,4-triazol-2-ylidene which may be substituted by methyl or phenyl,
- 5 R<sup>1</sup> to R<sup>4</sup> are each, independently of one another, hydrogen, chlorine, methyl, benzyl, pyridylmethyl, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl and
  - R<sup>2</sup> may also be methoxy, ethoxy, dimethylamino, diethylamino, pyrrolidino or piperidino, or
  - R<sup>1</sup>;R<sup>2</sup> in the formulae (I-H), (I-J), (I-O), (I-P), (I-U) to (I-ZA) together form an unsubstituted or methyl-, phenyl- and/or cyano-substituted bridge having the atom sequence -C=N-N-, -(C=O)-N(C=O)-N- or
  - $R^1$ ;  $R^2$  in the formulae (I-E), (I-F), (I-H), (I-J), (I-O), (I-P), (I-U) to (I-ZA) together form a -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>- or -CH=CH-CH=CH bridge and
  - $R^5$ is methyl, ethyl or a phenyl, 2-, 3- or 4-pyridyl, 2-, 3- or 4-quinolyl, thiazol-2-yl, benzothiazol-2-yl, benzoxazol-2-yl, imidazol-2-yl, benzimidazol-2-yl, 1,3,4-triazol-2-yl radical which may be unsubstituted or bear up to two identical or different radicals selected from the group consisting of methyl, methoxy, chlorine, nitro, cyano, methylsulphonyl, methoxycarbonyl and ethoxycarbonyl as substituents, formyl, acetyl, trifluoroacetyl, acryloyl, methacryloyl, benzoyl, methylbenzoyl, chlorobenzoyl, methanesulphonyl, trifluoromethanesulphonyl, perfluorobutanesulphonyl, benzenesulphonyl, toluenesulphonyl, chlorobenzenesulphonyl, methoxycarbonyl, ethoxycarbonyl, N.Ndimethylcarbamoyl, N,N-dimethylsulphamoyl, N-2,2,2-trifluoroethylsulphamoyl, N-methyl-N-2,2,2-trifluoroethylsulphamoyl, pyridine-2-, -3- or -4-carbonyl, pyridin-2-, -3- or -4-sulphonyl or benzothiazol-2-sulphonyl,
    - $Y^4$  is =0, =S or a radical of the formula

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$$R^6$$
 (XIII) or  $N_R^7$  (XIV),

 $R^6$  is hydrogen, phenyl, cyano, methoxycarbonyl or ethoxycarbonyl

and

- R<sup>7</sup> is hydrogen, methyl, ethyl, phenyl, tolyl, chlorophenyl, anisyl, 2-pyridyl, thiazol-2-yl or benzothiazol-2-yl.
- 5 24. Optical data carriers according to at least one of Claims 1 to 13 which have been written on by means of light having a wavelength of 360-460 nm, in particular by means of laser light.